THE TEXAS ACADEMY OF SCIENCE
FOUNDED 1892 • CHARTERED 1929

AFFILIATED WITH THE AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE

RESOLUTION OF THE TEXAS ACADEMY OF SCIENCE SUPPORTING MODIFICATION OF THE SCIENCE ESSENTIAL KNOWLEDGE AND SKILLS TO INCLUDE ALL FOUR SCIENTIFIC RESEARCH DESIGNS

WHEREAS, the Texas Academy of Science is the original and longest standing organization of scientists and science educators in the State of Texas, with over 400 members, and

WHEREAS, the Texas State Board of Education is proposing to adopt the Science Texas Essential Knowledge and Skills that includes Science and Engineering Practices, and

WHEREAS, scientific research designs are used to answer scientific research questions, and

WHEREAS, the current Science Texas Essential Knowledge and Skills recognizes **Descriptive, Comparative, and Experimental Research Designs** as representative of all the types of scientific research designs, and

WHEREAS, **Correlative Research Design** is also recognized as an appropriate research design by the scientific community that measures the association between continuous variables, rather than compare discrete group means as in Comparative designs, and

WHEREAS, the failure to recognize **Correlative Research Design** unduly inhibits and confines student research and related textbooks and teaching strategies, and

WHEREAS, the State's curricula should be modified to include the use of **Correlative Research Design**.

NOW, THEREFORE, BE IT RESOLVED BY THE BOARD OF DIRECTORS OF THE TEXAS ACADEMY OF SCIENCE, that the Academy supports modification of the Science Texas Essential Knowledge and Skills to include all four scientific research designs for student investigations: **Descriptive, Correlative, Comparative and Experimental Research Designs**. The Academy suggests the following wording:

Students should experience identifying a research question and designing and conducting scientific investigations, as follows:

1. Identify the research question and objective of the scientific investigation
2. Identify if there is a hypothesis that tentatively answers the research question
3. If there is no hypothesis, use a **Descriptive Research Design** for the investigation
4. If the hypothesis predicts a relationship between continuous variables, use a **Correlative Research Design**
5. If the hypothesis predicts a relationship between group means, use a **Comparative Research Design**
6. If the hypothesis can be tested by comparing a treatment with a control, use an **Experimental Research Design**

PASSED AND APPROVED THE 5th of November, 2021.
Kathleen Wood, PhD, President
Francisco Gonzalez-Lima, PhD, President Elect
Matthew A. Barnes, PhD, Vice President

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Texas Academy of Science